

REMARKS

Applicants note with appreciation the interview at the USPTO on August 5, 2008 with the Examiner, the undersigned, and inventors Russell Hill, Carmel Jolicoeur and Thi Cong To. Applicants submit concurrently herewith an Interview Summary that summarizes the issues discussed in the interview.

As discussed in the interview, Applicants have amended paragraph [0089] of the published application (US 2004/0206276) to clarify the term "air entrainment."

Applicants have amended claim 1 such that it now recites a method of "reducing or eliminating the effect of fly ash or other combustible ashes on air entrainment" and this language is supported in the application, e.g., at paragraph [0003] of the published application. Claim 132 also includes this language. New claim 133 recites a method of addressing the variance of carbon content in fly ash and this language is supported in the application, e.g., at paragraph [0150] of the published application.

In claim 1, Applicants have amended the claims to recite "or another combustible ash" to include combustible ashes other than fly ash as suggested by the Examiner in the interview. Claim 1 recites that "a sacrificial agent is included in the cementitious mixture in at least the amount necessary to neutralize the detrimental effects of components of said fly ash or other combustible ash on air entrainment activity, the sacrificial agent comprising a material or mixture of materials that, when present in the same cementitious mixture without fly ash or the other combustible ash in said amount causes less than 2 vol.% additional air content in the cementitious mixture" and this language is supported, e.g., by paragraphs [0063] and [0099]. Claims 132 and 133 also generally use this language. Claims 1, 132 and 133 have been further amended to recite that the "sacrificial agent comprises an organic compound" and this language is supported, e.g., by original claim 6.

In addition to claim 1, Applicants have amended claims 2-6, 12-14, 16-22, 33-43, 107-111, 115-116, and 118. These amendments are made to correspond to the amendments to claim 1 and to provide for mixtures of compounds listed in Markush groups. Applicants have cancelled non-elected claims 44-106, without prejudice. Applicants have also cancelled claims

112 and 119. Applicants have added new claims 120-131, which are dependent on claim 1, either directly or indirectly. Applicants have also added new independent claims 132 and 133 as described above. Applicants respectfully submit that the claim amendments and new claims are supported by the specification and original claims and request entry of these amendments. Based on these amendments, claims 1-9, 11-43, 107-111, 113-118 and 120-133 are pending in the present application.

Claims 1-9, 11-43 and 107-119 stand rejected under 35 U.S.C. § 112 and 35 U.S.C. § 132 as lacking support in the specification or adding new matter. In particular, the Office Action states that Applicants do not have support for excluding polyethylene glycol. As set forth in MPEP 2173.05(i) "Any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims." In the present application, polyethylene glycol is positively recited in the specification, for example, in original claim 5 and in paragraph [0067]. Therefore, polyethylene glycol can be excluded from the claims. Accordingly, Applicants respectfully request that this rejection under 35 U.S.C. §§ 112 and 132 be withdrawn.

The Examiner objects to Applicants' definition of fly ash on page 11 of the original specification. Although Applicants disagree with the position in the Office Action, the Applicants and Examiner have agreed that reciting "or other combustible ash" in claim 1 addresses this rejection. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The Examiner objects to Applicants' definition of air entrainment on page 17, lines 8-11 of the original specification. Applicants have amended this passage (paragraph [0089] of the published application) and respectfully request that this rejection be withdrawn.

Claims 1-9, 11-43 and 107-119 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 56022665 ("JP '665"), DE 19528912 ("DE '912"), WO 85/01500 (Nicholson), U.S. Patent No. 6,599,358 (Boggs), and U.S. Patent No. 5,110,362 (Hoarty). Nevertheless, these references do not disclose or suggest the subject matter of the claims as shown in the declaration under 37 CFR 1.132 signed by Carmel Jolicoeur Ph.D. provided concurrently herewith ("the Jolicoeur Declaration") and as discussed below.

JP '665 is directed to air-entraining agents for use in porous concrete. JP'665 is directed to maximizing air entrainment and the air-entraining agents described therein "have larger foaming power than traditional agents." See page 2, column 1, last full paragraph of the '665 translation. As mentioned in the Jolicoeur Declaration submitted herewith, JP '665 does not recognize the issues associated with using fly ash in cementitious compositions including the need to reduce or eliminate the effect of fly ash on air entrainment or to account for the variability of carbon content in fly ash when considering air entrainment. Therefore, the present claims are novel and non-obvious in view of JP '665 and Applicants respectfully request that the rejection based on JP '665 be withdrawn.

DE '912 (which is the same as GB 2292141) describes an air-entraining mixture comprising (a) C12-C24 alkanolic (fatty) acids; (b) compounds of formula $\text{Ph-C}_8\text{-9alkyl-O-(EtO)}_n\text{-H}$; and (c) salts of alkyl sulfonates, salts of alkyl aryl sulfonates, or sulfate esters of higher alcohols or resinsates. See page 2, lines 6-16 of GB '141. As described in the Jolicoeur Declaration, these compounds are all generally recognized in the art as air-entraining agents. Thus, these compounds, when present in a cementitious mixture in an amount necessary to neutralize the detrimental effects of components of fly ash or other combustible ash on air entrainment activity, will result in greater than 2 vol.% additional air content when present in the same cementitious mixture without fly ash or another combustible ash.. Thus, DE '912 does not disclose or suggest the sacrificial agents of the present claims. Accordingly, Applicants respectfully request that the rejection based on DE '912 be withdrawn.

Nicholson is directed to an air-entraining admixture for incorporation in hydraulic cement mixes comprising a mixture of (a) soluble alkanolamine and alkali salts of fatty acids, (b) soluble alkanolamine and alkali salts of certain sulfonic acids such as alpha olefin sulfonic acids, and (c) polyethylene glycol derivatives and fatty acid amides. See page 3, lines 23-29. As described in the Jolicoeur Declaration, compounds (a) and (b) are generally recognized in the art as air-entraining agents. Compound (c) is preferably a compound of formula $\text{RO}(\text{CH}_2\text{-CH}_2\text{-O})_n\text{H}$ wherein $n=3\text{-}30$ and R is H, a fatty acid ester, alkyl or alkylaryl. As set forth in the Jolicoeur Declaration, where R is a fatty acid ester, alkyl or alkyl aryl, these compounds would generally be recognized in the art as air-entraining agents. Furthermore, where R is H, the compound is a polyethylene glycol (PEG) and is excluded from the present claims. The Jolicoeur Declaration

further states that the fatty acid amides described on page 5, lines 35-36 of Nicholson would generally be recognized in the art as air-entraining agents. Thus, the compounds in Nicholson that would be covered by the claims, when present in a cementitious mixture in an amount necessary to neutralize the detrimental effects of components of fly ash or other combustible ash on air entrainment activity, would result in greater than 2 vol.% additional air content when present in the same cementitious mixture without fly ash or another combustible ash.. Therefore, Nicholson does not disclose or suggest the sacrificial agents of the present claims and Applicants respectfully request that the rejection based on Nicholson be withdrawn.

Boggs is directed to the use of aromatic carboxylic acids and hydroxyl substituted aromatic carboxylic acids as carbon scavengers. These compounds are specifically excluded from the present claims. Therefore, Boggs does not disclose or suggest the sacrificial agents of the present claims. Accordingly, Applicants respectfully request that the rejection based on Boggs be withdrawn.

Hoarty is directed to the use of air-entraining cement compositions that include a water soluble C8 fatty acid salt in combination with C9 and C10 fatty acid salts. The C8, C9 and C10 fatty acid salts would generally be recognized in the art as air entrainment agents as set forth in the Jolicoeur Declaration. Furthermore, as acknowledged at column 2, lines 13-16 and as described in the Jolicoeur Declaration, the other compounds Hoarty describes as air entrainment agents, i.e., Vinsol resin/abietic acid salts, ether sulfates, alkyl sulfonates, alkyl-aryl sulfonates, and amine oxide salts, are indeed generally recognized in the art as air-entraining agents. Therefore, the compounds in Hoarty, when present in a cementitious mixture in an amount necessary to neutralize the detrimental effects of components of fly ash or other combustible ash on air entrainment activity, would result in greater than 2 vol.% additional air content when present in the same cementitious mixture without fly ash or another combustible ash.. Therefore, Hoarty does not disclose or suggest the sacrificial agents of the present claims and Applicants respectfully request that the rejection based on Hoarty be withdrawn.

For the reasons provided above, Applicants respectfully submit that all the claims are in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested in due course. If any minor informalities need to be addressed, the Examiner is directed to contact the undersigned attorney by telephone to facilitate prosecution of this case.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 06-1050.

Respectfully submitted,

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